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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,111

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Johan Dahlberg

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EXAMINER

TROY, DANIEL J

ART UNIT

PAPER NUMBER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,111	<b>Applicant(s)</b> DAHLBERG, JOHAN	
	<b>Examiner</b> DANIEL J. TROY	<b>Art Unit</b> 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**1. DETAILED ACTION**

**2. Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

4. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maxim (US 694,295) in view of Hafstrand (US 2005/0066835).

6. Regarding claim 1, Maxim discloses, a method for producing tubular propellant charges with a very high charge density and high progressivity (line 47), characterized in that the charge comprises at least two propellant tubes (figure 2 or 3) which have circular outer and inner boundary surfaces and which are radially perforated in their entirety with combustion or ignition channels (3) at an e-dimension distance selected in relation to the actual type of propellant and its desired combustion characteristics ("to provide for suitable burning thicknesses between the perforations to secure the simultaneous completion of the combustion throughout the mass of the explosive" lines 37-42) and the ignition of the propellant tubes is successively done one after the other (figure 8 discloses a structure where it is inherent that the tubes ignite one after the other) , but lacks at least one of the total number of outer surfaces of these propellant tubes that are available for initiation has been treated with an inhibition, surface treatment or surface coating of all outer surfaces that delays the propagation of ignition

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to this surface, so that combustion of the propellant tubes is partially mutually overlapping.

7. Hafstrand teaches that it is known in the art to treat propellant surface with an inhibitor ([0009]). The use of an inhibitor allows for further control of the progressivity.

8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Maxim, by using an inhibitor similar to that disclosed by Hafstrand, to allow for further control of the progressivity. The examiner notes that the last sentence of paragraph [0004] of Hafstrand states "The progressivity of the powder can then in turn be accentuated by surface treatment with suitable substances" therefore it is inherent that a "surface treatment" would include all outer surfaces.

9. Regarding claim 2, Maxim discloses, at least two of the perforated propellant tubes included in the charge have been arranged one after the other (figure 2 or 3).

10. Regarding claim 3, Maxim discloses, the propellant tubes included in the charge, at least one is arranged inside the internal cavity of an outer propellant tube.

11. Regarding claim 4, for the structure shown in figure 8 of Maxim it is inherent that the ignition would propagate outwardly one after another. Further Hafstrand discloses "burn time" ([0003]).

12. Regarding claim 5, Hafstrand discloses "powered will burn towards other primed surfaces during a successive increase of the burn area, and the gas release thereby also increases."

13. Regarding claim 6, Maxim in view of Hafstrand discloses the invention as explained above further noting that it is inherent for an inhibited substance to have a different rate of combustion.

14. Regarding claims 7, 8, and 10, Maxim in view of Hafstrand teaches, a propellant charge for barrel weapons having circular outer cross section and a very high charge density and high progressivity as explained above. The examiner notes the structure of the method claims 1-6 are inherent because it is the normal and logical structure that would be used in the invention.

15. Regarding claim 9, Hafstrand discloses surface inhibitors can be used to control the progressivity ([0009]) noting that it is inherent for an inhibited to delay propagation.

16. Regarding claim 11, Maxim discloses, different tubes perforated at different distances (page 1 lines 37-45), but lacks the different propellants with different rates of combustion.

17. Hafstrand teaches that it is know in the art to use different rates of combustion ([0010]). The use of different rates of combustion rates allows one to vary the trajectory of a projectile.

18. Therefore it would be obvious to one having ordinary skill in the art to combine the different rates of combustion as taught by Hafstrand with Maxim's invention to allow one to vary the trajectory of a projectile used with the propellant.

19. Regarding claim 12, Maxim in view of Leeper teaches, different rates of combustion can be used to give a loner combustion time as explained above.

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20. Regarding claim 13, Maxim discloses, an inner cavity of the innermost propellant tube of the charge has been adapted to accommodate a fuse (32) for initiation of the charge. The examiner notes that having the fuse consist of loose granular propellant is obvious and well known in the art.

21. Regarding claims 14-20, Maxim in view of Leeper teaches, the method as previously described.

## **22. Response to Arguments**

23. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. The new grounds of rejection were necessitated by applicant's amendment to independent claim 1; specifically the added claim limitation "all outer surfaces of at least one propellant tube, so that ignition of the propellant tubes is successively done one after the other" used to overcome the previous rejection by Leeper (3,256,819).

## **24. Conclusion**

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Paul et al. (US 3,688,697) discloses a progressive charge with combustion channels (25) and an inhibiting surface treatment (27) that delays the propagation of ignition of all outer surfaces.

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

27. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL J. TROY whose telephone number is (571)270-3742. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

29. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (571) 272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DJT/

/James S. Bergin/  
Primary Examiner, Art Unit 3641